

BEYOND THE SANDSTONE CURTAIN: ARE WE LOSING OUR WOODLAND BIRDS?

Below are the abstracts of some of the talks from the ABSA Scientific Day 17 March 2001 at Western Plains Zoo, Dubbo.

Woodland birds: going, going . . . A review across the five mainland states

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The readily accessible ornithological literature dealing with declining woodland birds in southern Queensland, New South Wales, Victoria, South Australia and Western Australia is briefly reviewed. I then present some results from research I have conducted into the declining bird problem in the New South Wales sheep-wheat belt. Several conclusions and generalizations are drawn. Recommendations about future bird research and land management follow from them.

Both the specific identities in some cases and more generally the taxonomic affinities of the groups of birds that have been identified to be in widespread decline are broadly similar across the mainland states. Typically, the Australo-Papuan robins (particularly the Hooded Robin) and the ground-dwelling treecreepers — Brown in the east, Rufous in the west — have been hardest hit by the extensive clearance of their habitat, degradation of remnant vegetation patches and ensuing fragmentation (lagged) effects.

Characteristics of the generalized declining bird species include:

- the ground dwelling or feeding habit;
- insectivory;
- sedentariness;
- large home-range requirements;
- being a 'small bushbird'.

These types of birds are showing the most rapid declines and I suspect that they are proceeding to local extinction over vast portions of the temperate agricultural landscapes in southern and eastern Australia.

To arrest and reverse these declines:

- broad-acre vegetation clearance should cease;
- prioritize the protection and enhancement of the best native vegetation remnants (patch management) in the more fertile parts of the production landscapes;
- grazing management needs to be improved and firewood collection curtailed in remnants;
- the process of revegetation needs to accelerate dramatically, be undertaken strategically (regional planning) and be 'biodiversity-friendly' (by using a broad functional mix of local natives).

Useful lines of inquiry would include:

- source-sink dynamics, targeting a few declining species, in patches of different sizes and habitat quality ('what are the size/quality thresholds for these species?')
- the study of dispersal in a few sedentary declining bushbirds, focusing on thresholds to dispersal across habitat gaps ('what gap is too great to cross?')
- experimentation into patch-restoration techniques to improve habitat suitability for a range of declining species ('can we define their habitat preferences, are there crucial elements that can be easily restored?').

The amateur ornithologist can contribute substantially to our collective information needs. Perhaps the most effective way to contribute will be through organized group research and there are now many examples of this approach. Key ingredients to successful group research include setting clear realizable goals, leadership (organizational skills), scientific input, strong links with the local community, enthusiasm (it must be fun), and a commitment to finishing the project (goals met and formal publication).

Changes in Bird Populations in the mid-Lachlan over 25 years

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Over 25 years, 255 species of birds have been recorded in the mid-Lachlan region by the author. Of these, 128 could be classed as resident, 45 as nomadic, 58 as migrants and 24 as vagrants. The majority of resident species have shown some change in either distribution or population, with some species either extending their eastern or western distributions, and other species, especially the smaller passerines, disappearing from many of the isolated woodland remnants.

The region is situated on the boundary of two bioregions namely the Eryean and Bassian and as such have a number of species at the end of either distributions in the region. This region is heavily developed for agricultural use, mainly growing of grains. The landscape except for rocky hills has woodland which is fragmented and floristically degraded.

Because of climatic conditions experienced over the 25 years, such as drought and unseasonable weather, there has been a noticeable change in some species distribution and population dynamics. This appeared to start in the 80s and continued into the 90s.

It is considered that if further fragmentation and isolation of woodland remnants continue, combined with adverse climatic change, then further species will be lost to the region.

Treecreeper decline: isolation, habitat structure and too much family togetherness

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Limitations on time and resources mean that most conservation efforts focus on ecosystems, trying to maintain habitat patches that support the greatest number of species. However, key species can still be lost, suggesting that we should combine recommendations from both large-scale ecosystem studies and detailed single-species studies to better preserve intact communities.

In eucalypt woodlands, Brown Treecreepers *Climacteris picumnus* proved such an opportunity. Drawing on data from recent dissertations by Caren Cooper in the New England Tablelands and Veronica Doerr and Erik Doerr in the Central West of New South Wales, I suggest that treecreeper populations have declined in the past due to habitat loss, but are continuing to decline due to associated effects of habitat degradation and isolation caused by fragmentation. The level of degradation varies between regions and generally results from taking of dead and down wood and the combined effects of grazing and fire suppression, which change the structure of habitat required for successful reproduction.

Fragmentation of remaining habitat varies within regions and leads to an almost complete loss of gene flow between fragments because of the complex treecreeper social system influences dispersal strategies. Using this understanding of the causes of decline, I evaluate recommendations based on large-scale ecosystem studies like the Birds Australia Birds of Farms project.

To ensure persistence of Brown Treecreepers and possibly other bark foragers and co-operative breeders, management recommendations should be modified to include a plan to manage for understorey diversity (rather than simply shrub cover) and should place greater emphasis on landscape structure and connectivity, particularly on managing and creating strips of breeding habitat rather than patches. We need to study the causes of decline for members of other key foraging guilds to further evaluate existing management plans and ensure the long-term survival of all our woodland birds.

Community awareness — The beginning of the solution?

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In July 1999, I commenced a 12-month project to focus community attention on the declining birds of the New South Wales sheep-wheat belt. This project was a joint initiative of the NSW National Parks and Wildlife Service and Birds Australia and it had specific targets of providing up-to-date research results to the wider community in a number of ways.

Those targets were met and in many instances, the results far exceeded expectations in terms of public awareness of what could have been contentious issues. Land managers were often aware of the decline of local birds but had no way of knowing that those declines were directly linked to land management. Once people realized that bird decline was widespread in the sheep-wheat belt and that different management techniques could help to halt further decline — and may even result in the return of birds to their areas — they expressed an enthusiastic willingness to bring about beneficial changes, if they could.

So perhaps awareness is the beginning of the solution. If so, should we now be looking at where that bright beginning is leading and how long it will take to reach its goals? This may be the time to determine exactly what those goals are and how long we have to reach them, given the clear evidence we have of birds on the brink of extinction in some areas.

I would suggest that a first step needs to be some assessment of whether that initial enthusiasm brought about through raised awareness actually results in long-term management changes with benefits to nature conservation and bird welfare.